

From: [Craig Carroll](#)
To: [Leigh DeHaven](#)
Cc: [Steve Mason](#); [James Staves](#)
Subject: Fw: some quick info on ecotoxicity of dispersants....
Date: 05/02/2010 04:44 PM
Attachments: [Singer et al 1996.pdf](#)
[Mitchell and Holdway 2000.pdf](#)
[Lindgren et al 2001.pdf](#)

FYI

Craig Carroll
Chief, Emergency Readiness Section
EPA Region 6
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----- Forwarded by Craig Carroll/R6/USEPA/US on 05/02/2010 04:43 PM -----

From: Terry Burton/R6/USEPA/US
To: Craig Carroll/R6/USEPA/US@EPA, Ronnie Crossland/R6/USEPA/US@EPA, Mark Hansen/R6/USEPA/US@EPA
Date: 05/02/2010 04:27 PM
Subject: Fw: some quick info on ecotoxicity of dispersants....

More dispersant info...

Terry Burton
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----- Forwarded by Terry Burton/R6/USEPA/US on 05/02/2010 04:26 PM -----

some quick info on ecotoxicity of dispersants.... 

Mace to: Cynthia Sonich-Mullin
Barron

05/02/2010
04:20 PM

Cc: Albert Venosa, Daniel Heggem, Gregory Wilson, Richard Devereux, Terry Burton, Hal Zenick



Singer et al 1996.pdf



Mitchell and Holdway 2000.pdf

Summarized from Lindgren et al 2001 (attached: see tables 4 to 7)):

The United States Environmental Protection Agency (EPA) has conducted toxicity tests on several of the dispersants they allow. Tables 4 through 7 summarise the toxicity of four different dispersants - Corexit 9500, Corexit 9527, Dispersit 1000 and JD-109. The tests studied the toxicity of dispersants alone, dispersants with oil, and oil alone. The toxicity tests were carried out on the minnow *Menidia beryllina* (96-hours test) and the crustacean *Mysidopsis bahia* (48-hours). (EPA, 2001).



Lindgren et al 2001.pdf

In summary, generally low toxicity to standard test species as AI noted.

▼ Rick Greene---05/02/2010 01:31:55 PM---Gregory, The depth is ~1000 m.

From: Rick Greene/GB/USEPA/US
To: Michael Murrell@EPA, Gregory Wilson/DC/USEPA/US@EPA
Cc: Albert Venosa/CI/USEPA/US@EPA, Mace Barron/GB/USEPA/US@EPA, Terry Burton/R6/USEPA/US@EPA, Richard Devereux@EPA, Daniel Heggem/LV/USEPA/US@EPA, Cynthia Sonich-Mullin/DC/USEPA/US@EPA
Date: 05/02/2010 01:31 PM
Subject: Re: Fw: First Cut Summary

Gregory,
The depth is ~1000 m.

Dr. Richard M. Greene
Acting Director, Gulf Ecology Division
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1 Sabine Island Dr., Gulf Breeze, FL 32561-5299
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▼ Michael Murrell---05/02/2010 01:23:14 PM---Rick The short answer is that the permanent thermocline in the GOM extends from the surface to ~1000

From: Michael Murrell/GB/USEPA/US
To: greene.rick@epa.gov
Date: 05/02/2010 01:23 PM
Subject: Re: Fw: First Cut Summary

Rick

The short answer is that the permanent thermocline in the GOM extends from the surface to ~1000 m depth. See Fig 8-2 in the attached.

Looking over the draft document, one other factor that will slow down oil biodegradation in deep waters (in addition to low temps) is the absence of UV/Sunlight, which vastly accelerates degradation (but according to Mace's stuff, it also increases toxicity).

Hope this helps

Mike

Source:

Shiller, A. M. 1999. An overview of the marine chemistry of the Gulf of Mexico, p. 132-148, *In* H. Kumpf, K. Steidinger and K. Sherman, eds. The Gulf of Mexico large marine ecosystem. Blackwell Science, Inc., Malden, MA.

[attachment
"Shiller_1999_Gulf_of_Mexico_chemistry_review.pdf" deleted by
Mace Barron/GB/USEPA/US]

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▼ Rick Greene---05/02/2010 12:55:19 PM---Here are some edits to the document.
One of my staff is trying to find the depth of the deep ocean p

From: Rick Greene/GB/USEPA/US
To: Gregory Wilson/DC/USEPA/US@EPA
Cc: Albert Venosa/CI/USEPA/US@EPA, Mace Barron/GB/USEPA/US@EPA, Terry Burton/R6/USEPA/US@EPA, Richard Devereux@EPA, Daniel Heggem/LV/USEPA/US@EPA, Michael Murrell@EPA, Cynthia Sonich-Mullin/DC/USEPA/US@EPA
Date: 05/02/2010 12:55 PM
Subject: Re: Fw: First Cut Summary

Here are some edits to the document. One of my staff is trying to find the depth of the deep ocean pycnocline - I'll get back to you on this. I think the issue of exposure and effects on deep ocean fauna will be difficult to assess quantitatively. By in large, we can't bring these things into the lab to do tox tests. I suppose one could video some of the habitats (deep corals reefs, etc).

[attachment "Dispersing Oil in Deepwater Ecosystems_Greene edits.doc" deleted by

Michael Murrell/GB/USEPA/US]

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▼ Gregory Wilson---05/02/2010 12:14:43 PM---All - Can everybody provide comments as appropriate to me ASAP, and I will compile them and send the

From: Gregory Wilson/DC/USEPA/US
To: Albert Venosa/CI/USEPA/US@EPA, Rick Greene/GB/USEPA/US@EPA, Mace Barron/GB/USEPA/US@EPA, Terry Burton/R6/USEPA/US@EPA
Date: 05/02/2010 12:14 PM
Subject: Fw: First Cut Summary

All -

Can everybody provide comments as appropriate to me ASAP, and I will compile them and send them back to NOAA on EPA's behalf? The ecological exposure to subsurface sea life to dispersed oil is a top priority that we need to understand. Of high concern is how are we going to measure the exposure and what criteria are going to be used to evaluate the net environmental benefit. Thought? Please respond ASAP.

Gregory Wilson, Ph.D.
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----- Forwarded by Gregory Wilson/DC/USEPA/US on 05/02/2010 11:19 AM -----

From: "alan.mearns" <Alan.Mearns@noaa.gov>
To: "Kate.Clark" <Kate.Clark@noaa.gov>, James.Kendall@mms.gov, Gregory.Boland@mms.gov, Pasquale.Roscigno@mms.gov, James.Sinclair@mms.gov, Margaret.Metcalf@mms.gov, Gregory Wilson/DC/USEPA/US@EPA, Albert Venosa/CI/USEPA/US@EPA, Rick Greene/GB/USEPA/US@EPA, Mace Barron/GB/USEPA/US@EPA, Terry Burton/R6/USEPA/US@EPA, Daniel.Leedy@mms.gov, John Tarpley <john.tarpley@noaa.gov>, Charlie Henry <Charlie.Henry@noaa.gov>
Cc: Nicolle R Rutherford <Nicolle.R.Rutherford@noaa.gov>, Steve Lehmann <Steve.Lehmann@noaa.gov>, Bonnie Ponwith <Bonnie.Ponwith@noaa.gov>, Karen Kohanowich <Karen.Kohanowich@noaa.gov>, Doug Helton <Doug.Helton@noaa.gov>, William Conner <William.Conner@noaa.gov>
Date: 05/01/2010 10:12 PM
Subject: Re: First Cut Summary

All

Nicolle Rutherford and I took a first crack at a draft statement for your review and comment. It is for review and comment only, not distribution.

We are also sending this for comment to Bonnie Ponwith and Karen Kohanowich who have provided a lot of excellent resource information from NOAA Fisheries and OAR and have significant responsibilities for the deep fauna.

Keep in mind we are in the mode of developing 2-pagers for wide consumption.

You will also note I took the liberty, at the end, of suggesting a net environmental benefit, based on our discussion of the alternative and ongoing situation.

We need some questions answered or qualified:

- The natural seep oil discharge in the Gulf is 10 million gallons per_____?
- Is there a map of seeps? Can major and minor seeps in the area be identified?
- At what depth (or is it seasonal?) do the "two seas" meet. I assume this is the permanent pycnocline, but what depth range do you experts consider?

We will need to keep this moving.

John Tarpley, thanks for chairing the call and keeping us moving. And thanks for the list Kate.

Thanks so much!

Alan Mearns and Nicolle Rutherford

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Please see our website at: <http://response.restoration.noaa.gov/>

The contents of this message are mine personally and do not necessarily reflect any position of NOAA.

"I want the crab count, and I want it NOW!" Capt. Sig Larsen,
Northwestern, Dangerous Catch.

Kate.Clark wrote:

> AKA, the SSDIPECW,
>
> Thanks to everyone for an engaging and productive call today. The
> emails of everyone who participated are included in this email. Since
> the emails all contain full names and agency affiliations, I will skip
> listing them in the text.
>
> Attached, for background only, is a Subsurface Injection of Surface
> Oil Dispersant test plan.
>
> Please feel free to cc: the workgroup with any additional information
> that may be pertinent.
>
> Thank you,
> Kate Clark
> (c) 301-785-7802
>
>

[attachment "Dispersing Oil in Deepwater Ecosystems.doc" deleted by Rick
Greene/GB/USEPA/US]